Diversity within the Joint Team: Understanding the Different Operational Perspectives of the Army and Air Force

A Monograph
by
Major Ryan L. Hill
United States Air Force

School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

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Proceeding from the means and ways they use to overcome the problems within their specific domains, the Army and Air Force have developed different operational perspectives. The differences would not matter if each conducted operations independently; however, to be effective on the modern battlefield, the two services must fight as one team. Unfortunately, the views of the two branches have been contentious from the beginning and have had a negative impact on the planning and conduct of joint operations. This monograph highlights the differences between the Army and the Air Force perspectives by focusing on five aspects of their individual views: space, objective, tactical actions, time, and dependency. Identifying and explaining the roots of these views, through the frames of history, theory, and doctrine, the study seeks to explain why the services believe, thus plan, and act in different ways. With shared understanding of the foundations of the two operational approaches, the joint planners are better equipped to rise above service parochialism and utilize the strengths and views of both forces in a joint team concept.

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Major Ryan L. Hill

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Approved by:

_____ Monograph Director
G. Scott Gorman, Ph.D.

_____ Second Reader
Christopher C. LaNeve, COL, IN

_____ Director,
Thomas C. Graves, COL, IN School of Advanced Military Studies

_____ Director,
Robert F. Baumann, Ph.D. Graduate Degree Programs

Abstract

DIVERSITY WITHIN THE JOINT TEAM: UNDERSTANDING THE DIFFERENT OPERATIONAL PERSPECTIVES OF THE ARMY AND AIR FORCE by Major Ryan L Hill, USAF, 58 pages.

Proceeding from the means and ways they use to overcome the problems within their specific domains, the Army and Air Force have developed different operational perspectives. The differences would not matter if each conducted operations independently; however, to be effective on the modern battlefield, the two services must fight as one team. Unfortunately, the views of the two branches have been contentious from the beginning and have had a negative impact on the planning and conduct of joint operations. This monograph highlights the differences between the Army and the Air Force perspectives by focusing on five aspects of their individual views: space, objective, tactical actions, time, and dependency. Identifying and explaining the roots of these views, through the frames of history, theory, and doctrine, the study seeks to explain why the services believe, thus plan, and act in different ways. With shared understanding of the foundations of the two operational approaches, the joint planners are better equipped to rise above service parochialism and utilize the strengths and views of both forces in a joint team concept.

Table of Contents

I. Introduction

Jointness and the Team Concept

Since the origins of the United States military, joint operations have pervaded the American way of war. In 1776, shortly after the birth of the United States, General George Washington demonstrated the necessity of joint operations as he relied upon the Pennsylvania Navy to bring his army across the Delaware River to raid British and Hessian forces in New Jersey.[1] The joint nature of the raid not only gave the Americans a much-needed victory, but also demonstrated the synergistic effects that come from service cooperation. General Colin Powell describes this concept of the military services working together, or "jointness," as "nothing more than teamwork… to accomplish the team mission."[2] Joint Publication (JP) 1 echoes this idea, stating, "Joint warfare is team warfare."[3] As is the case on any team, success for the military force is dependent not only upon the strength of its members, but also on how well each service understands how its own role fits into the overall team concept and how well it works with the other services to accomplish their common goal. Dr. Jamshid Gharajedaghi writes, "What characterizes a winning team in not only the quality of its players but the quality of the interactions among them."[4] The relationships that exist between America's military services are obviously an important factor to success in warfare; however, the harmony of teamwork has been elusive between the U.S. military's primary air and land branches.

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[1] David Hackett Fischer, *Washington's Crossing* (Oxford University Press, 2004), 188.

[2] Gordon Nathaniel Lederman, *Reorganizing the Joint Chiefs of Staff: The Goldwater-Nichols Act of 1986* (Westport, Connecticut: Greenwood Press, 1999), 104.

[3] Joint Publication (JP) 1, *Doctrine for the Armed Forces of the United States* (Washington D.C.: DoD, 20 March 2009), i.

[4] Jamshid Gharajedaghi, *Systems Thinking: Managing Chaos and Complexity: A Platform for Designing Business Architecture*, Second Edition (San Diego, CA: Elsevier, Inc., 2006), 48.

When, in July 1947, the United States Air Force gained its independence from the Army, it was an acknowledgment of an already growing rift in ideology between the services.[5] Despite the fact that aviators and their aircraft had been under the Army's control since they joined its signal corps forty years earlier, the ground-based force had struggled to keep its subordinate's head out of the clouds.[6] Early on, airmen developed their own views of how wars could and should be fought in the future. Visions of direct, decisive victory gave them a different perspective than their Army brethren, who were wary of the idea that a single decisive battle could win a war. Though their views have evolved since then, each service's perception of how to achieve strategic success has continued to clash with that of the other. Because of their differing operational perspectives, the two services have struggled to find common ground when planning operations in the joint environment. Thus, this monograph poses the question: In what ways do the Army and Air Force's differing operational perspectives affect joint planning? This study also proposes the hypothesis that differing concepts can enhance the planning process, bringing more options to the table for joint planners to merge into a synergistic joint plan.

Defining Operational Perspective

So what exactly is *operational perspective*? The terms do not appear together in any Army, Air Force, or Joint doctrine manual; however, the definitions of the individual words help reveal their combined meaning. In JP 3-0, *operational* refers to the level of war that "links the tactical employment of forces to national and military strategic objectives through the design and conduct of operations using operational art."[7] To add further clarity, Joint doctrine states that

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[5] Bernard C. Nalty, ed., *Winged Shield, Winged Sword: A History of the United States Air Force, Volume I 1907-1950* (Washington, D.C.: Air Force History and Museums Program, 1997), 395.

[6] Thomas H. Greer, *The Development of Air Doctrine in the Army Air Arm 1917-1941* (Maxwell AFB, AL: USAF Historical Studies, 1955), 1.

[7] Joint Publication (JP) 3-0, *Joint Operations* (Washington D.C.: DoD Publishing, 22 March 2010), xiii.

operational art provides the commander with "the vision that links tactical actions to strategic objectives."[8] So, for the purpose of this monograph, the word *operational* denotes the use of operational art to link tactics with strategy. The word *perspective*, taken from the *Oxford Dictionary*, means "a particular attitude toward or way of regarding something; a point of view; true understanding of the relative importance of things."[9] Thus, together, *operational perspective* is the understanding of how tactical actions should be linked to strategic objectives, or in short, how each service regards operational art.

Understanding why each service sees operational art differently is not intuitive. The services are on the same team and work toward the same goals, so it seems odd that they would have different operational perspectives. However, if one considers their unique domains, or the realms in which the different services operate, the reason behind their differences becomes clearer. With some exceptions, the services operate largely within their own domains; the Army is primarily a land force, while the Air Force operates in air and space. As such, each has developed its own means appropriate for its domain; the Army has soldiers, tanks, trucks, and cannons while the Air Force owns a variety of aircraft, bombs, missiles, and satellites. This is essentially a case of form following function; the services optimize their means to exploit their respective domains to reach their objectives. Thus, domain-specific means lead directly to domain-specific ways. Dr. Antulio Echevarria II, professor at the US Army War College, described "the 'way' that is used to move military means in the direction of achieving strategic aims," as the very essence of

[8] JP 3-0, *Joint Operations*, IV-3.

[9] Oxford Dictionary Online, s.v. "perspective," http://oxforddictionaries.com/definition /american_english/perspective?region=u s&q=Perspective (accessed July 28, 2012).

operational art.[10] Therefore, institutionally, the ways available to each service has affected how they approach warfare, or how they regard operational art.

Of course, institutions do not think or reason for themselves, but over time, the thoughts and experiences of individuals who operate within their respective domains meld and create corporate beliefs, to which most of its members ascribe.[11] Because of their shared viewpoints, or institutional culture, organizations tend to express these common convictions through similar decisions and actions. Through its own shared experiences and theories developed within its unique domain, each service has formulated its own lens through which they view combat. Philosophy professor, Dr. Gary Jason in his book *Critical Thinking* writes that in order to interpret the world, "humans use their rationality to create and shape a mental model, a worldview, of that world as a tool." Jason goes on to explain that the mental model "is what you use to make choices and take actions."[12] The two services, which learned and evolved in separate domains, or "worlds," with inherent means and ways, has developed their own distinct mental model for dealing with its unique environment. The different ways in which a service sees the world therefore determine their operational perspective.

Two Perspectives

This study is limited to the conflict that exists between the operational perspectives of the Army and Air Force, which presents a palpable demonstration of how operational perspectives play a role in joint planning; however, the concepts of service rivalry and teamwork are applicable to the entire joint force.

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[10] Antulio J. Echevarria II, "American Operational Art, 1917-2008," in *The Evolution of Operational Art*, ed. John Andreas Olsen and Martin Van Creveld (Oxford: Oxford University Press, 2011), 138.

[11] Carl H. Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore: RAND Corp, 1989), 8.

[12] Gary Jason, *Critical Thinking: Developing an Effective Worldview* (Belmont, CA: Wadsworth Group, 2001), 1.

The difference between the Army and the Air Force's operational perspective becomes clear by observing the way in which each branch regards five fundamental aspects of operational art. The first aspect is space, which relates directly to the domains in which they operate and is foundational to their other views. The Army maintains a primarily two-dimensional view of warfare in which terrain is not only a factor for movement and maneuver, but also an objective they must seize and hold to gain victory. However, since the time young Airmen took to flight, they have touted their ability to bypass terrain and strike the enemy in depth. Their three-dimensional perspective of space has led them to different conclusions about the importance of the terrain and the obstacles it presents.

The way in which the services regard space directly affects the closely related second and third aspects of operational art: objective and tactical actions. Operational art, in the view of both forces, aims at the strategic objective, but the route they take to arrive at the goal differs. While the objective directs the Army's efforts, the Air Force focuses their efforts at the objective directly. This seemingly subtle difference has clear implications. As the Army traverses the terrain inherent in its land-based mental model, it is directed each step of the way by the objective. Therefore, the tactical actions the Army regards as coordinated, or arranged, in a particular way to pursue the strategic aim. The concepts that underpin this perspective lie in the idea that decisive battles no longer achieve strategic ends. Rather, modern armies are resilient and require sequential actions to pursue specific goals. Therefore, the army views the application of operational art as sequential actions that sustain progress toward a strategic objective.

The Air Force, on the other hand, believes the technology they wield can achieve the objective by direct tactical action. This mentality began early, as airplanes in the army's air arm flew over the trenches in World War I unimpeded and airmen began to theorize about the opportunities the new technology would grant them. The land warfare history that affected the Army's perspective seemed irrelevant to airman in view of the new capabilities presented by the aircraft to directly attack the heart of the enemy. Whereas the Army arranges tactical actions in

the form of movement and maneuver to pursue an objective, the Air Force employs tactical actions against target sets to achieve its ends directly.

The fourth aspect, timing, is also a product of the service domains. The Army prefers to act in simultaneous operations, but is limited in doing so primarily by their land-based means and ways. Therefore, the Army depends greatly on phasing in order employ operational art. Meanwhile, the Air Force, which has a greater capacity for simultaneity views phasing as an enabler. After its first, almost standard, phase of establishing air superiority, the Air Force can then employ its capabilities concurrently.

Finally, the Army and Air Force cling to opposing views of dependency. The Army is forthcoming about its dependency on the other services to be effective, acknowledging its reliance upon its partners to provide capabilities that supplement or are not organic to Army forces.[13] However, the Air Force is adamant in their belief that they can achieve strategic ends independently. The divergent views in each of these aspects help clarify the different operational perspectives between the forces and illuminate the sources of the problems that surface in joint planning.

Conflict: Clashing Perspectives and Shared Domains

John Kotter, in his book *Power and Influence*, wrote that conflict occurs when diversity meets interdependence.[14] His theory certainly holds true in the relationship between the Army and Air Force. The "variety" formed by their contradictory belief systems would matter little if the service roles remained within their respective domains and were independent of one another; however, the services are less than autonomous in their respective realms. Weapons delivered by

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[13] Army Doctrine Publication (ADP) 3-0, *Unified Land Operations* (Washington D.C.: HQ DA, 10 October 2011), 7.

[14] John P. Kotter, *Power and Influence: Beyond Formal Authority* (New York: The Free Press, 1985), 18.

airborne platforms have an impact on the land domain. Therefore, both the air and land forces feel they should have a stake in where and against whom these weapons are employed. Additionally, the Army also participates in the three-dimensional war, firing missiles, artillery, and air defense weapons, and even launching unmanned aerial vehicles into the air. Air Force General Ronald Fogleman and Army General Dennis Reimer, former Chiefs of Staff of their respective branches, in a co-authored article, write, "Service concerns arise when areas of responsibility potentially overlap."[15] The impacts that each service has on the other's domain require a great deal of cooperation between the services; however, when perspectives clash in shared domains, conflict develops and the team vision is lost.

Purpose and Significance of the Study

Having great players on a team is only a part of what it takes to be successful. A symphony orchestra, for example, may contain some of the best individual musicians in the world, but unless they are playing their instruments in harmony, they would produce merely noise, as opposed to music. This team concept is also true for military forces. Just as important as the strength of the individual services is their ability to work together in planning and execution.

Service cooperation begins with mutual understanding. ADP 3-0 states, "Effective integration requires creating shared understanding and purpose through collaboration with all elements of the friendly force."[16] Jamshid Gharajedaghi, in his book *Systems Thinking*, writes, "To influence the actors in our transactional environment we have to understand why they do what they do." He goes on to note, "The why question is a matter of purpose."[17] So, if the services seek integration through "shared understanding and purpose," they must focus on the

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[15] Dennis J. Reimer and Ronald R. Fogleman, "Joint Warfare and the Army-Air Force Team," *Joint Forces Quarterly*, Spring 1996, 10.

[16] ADP 3-0, *Unified Land Operations*, 7.

[17] Gharajedaghi, *Systems Thinking*, 33.

question "why." The purpose of this monograph is to do exactly that. By examining why the Army and the Air Force regard operational art in the manner they do, this monograph provides a level of shared understanding between the two services. Building upon that foundation, it brings to light how the different views can be a benefit, rather than a liability, to joint planning. In the past, conflicts between Army and Air Force views have created obstacles in both planning and execution. The United States can ill-afford this type of service parochialism, which is why this monograph is significant. Unlike business professionals, who emphasize cooperation for the sake of monetary gain, the US military has a different bottom line. America has entrusted the military services with the interests of the nation, the trust of its citizens, and the lives of its members. No plans are fail-proof, but with such a great responsibility, the military cannot allow differing operational perspectives to get in the way. If teamwork is to improve between the services, it must begin not only with shared understanding of each other, but also with a mutual grasp of the idea that each service brings with it a variety of perspectives that can be merged into an effective joint plan.

Methodology of the Study

Chapters two and three of this monograph use a comparative approach to examining the differences between the Army and Air Force's respective operational perspective. To meet the purpose of shared understanding, the chapters do not examine what or how the services do things, but why they do what they do.[18] The study examines each service's view of the five aspects of operational art: space, the objective, tactical actions, timing, and dependence. Although one branch's views do not diametrically oppose the other's in each area, each one's unique view is key to understanding their overall operational perspective. Each chapter demonstrates how the given service regards operational art by briefly looking into its history, its theory and its doctrine.

[18] Gharajedaghi, *Systems Thinking*, 33.

The history portion will cover how the service's experience led them to their views. The theory section of each is limited to those theories and theorist whose ideas contributed to doctrinal development. These chapters highlight the differences noted in chapter one, providing the reader with a greater appreciation of the depth and origins of each perspectives. Chapter four then explores the implications of the differences by examining the effects they had on joint planning in Operation Desert Storm. Finally, the conclusion provides an analysis of the two views and gives recommendations for how joint planners can harness the appropriate portions of each perspective in a truly joint plan.

II. The Army's Operational Perspective

The Army's Perspective through History

"Experience is the teacher of all things."[19] The words Julius Caesar wrote centuries ago imply that the tree of all human knowledge is rooted in human experience; therefore, to comprehend what one believes in the present, he must look to the past. With centuries of land warfare upon which to draw lessons, the Army feels compelled to look to the past as a guide to the future. An overview of the Army's history, examining the way in which they have used operational art, illustrates this point and helps reveal why it possesses its unique operational perspective.

As America forged its Army in the late 18th Century, it did so in a unique time in the history of warfare: just prior to the Napoleonic era, which some argue introduced the concept of operational art into the realm of warfare. Napoleonic warfare thoroughly reinforced, and subsequently debunked, the idea that a single decisive battle could win a war.[20] The French Revolution in the late eighteenth and early nineteenth centuries introduced large, resilient armies to the battlefield. Dr. Robert Epstein, who was a professor at the U.S. Army's School of Advanced Military Studies (SAMS), wrote that the introduction of the corps formation "altered the intellectual approach to the conduct of war."[21] While Napoleon had a monopoly on the well-organized maneuver corps concept, he perfected decisive battle, as was evident in his

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[19] Julius Caesar, *de Bello Civili*, quoted in Dictionary.com, "Quotes," http://quotes.dictionary.com /author/julius+Caesar (accessed September 29, 1012).

[20] James J. Schneider, *Vulcan's Anvil: The American Civil War and the Foundation of the Operational Art*, Theoretical Paper No. 4 (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 2004), 1.

[21] Robert M. Epstein, *Napoleon's Last Victory and the Emergence of Modern Warfare* (Lawrence, KS: University Press of Kansas, 1994), 4.

overwhelming successes at Ulm and Austerlitz in 1805.[22] However, as his enemies' armies grew in size and tactical maturity, crushing victories became illusive. Epstein pointed out that "Napoleon's decisive victories were possible only against the obsolete armies of the *ancien régime*."[23] The corps formations were so large and resilient that they could not be defeated in a single battle, which brought to light the premise that decisive war played out on a single battlefield were obsolete.

While Napoleonic-style warfare, once matched, led to a larger battlefield, other factors, including weapons with increased accuracy, the railroad, and the telegraph, closely followed, further distributing forces across the theatre of war. When rifled guns, followed closely by repeating and breach-loaded weapons, greatly increased the precision and lethality of firepower, massed army formations became untenable.[24] What Dr. James Schneider, another former SAMS instructor, notes the "medium of the concentrated battle," used by Alexander the Great and Napoleon, only served to create larger targets for increasingly lethal firepower.[25] Instead, Dr. Schneider points out, "The classical tradition of a strategy of a single point became extended in breadth and depth through space and time under the new style of warfare."[26] For the purposes of survival, commanders disseminated their armies, furthering their resilience. Furthermore, the technological advances of the railroad and the telegraph enabled the distribution of forces by introducing fast, reliable, mass transit along with and increased capacity for command and control over great distances.[27] As a result, the space of the battlefield grew tremendously in breadth and depth. The equation of battle had changed from one of overpowering the enemy to one of

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[22] David G. Chandler, *The Campaigns of Napoleon* (New York: MacMillan Publishing Co., Inc., 1966), 396, 420.

[23] Epstein, *Napoleon's Last Victory*,171.

[24] Schneider, *Vulcan's Anvil*, 9.

[25] Ibid., 20.

[26] Ibid., 21.

[27] Ibid., 47-48.

occupying land. With the single-battle strategy dethroned, the way in which many military professionals understood warfare began to change.

The young American Army, aware of the military implications in the Napoleonic Wars, immediately appreciated the changes taking place in warfare. Two massed forces meeting on the battlefield to decide the outcome was no longer a viable way to fight a war. The new challenge introduced to the commander was arranging the actions of forces spread across a dispersed battlefield and directing them toward the objective. Epstein writes that when armies modernized, it created "a symmetrical operational dynamic that ended the decisive battle and replaced it with a series of engagements whose strategic outcome was cumulative."[28]

America saw these changes play out during the its Civil War, as General Ulysses S. Grant embraced the new capabilities of the railroad for mass transportation and the telegraph for extended communication. Grant orchestrated a campaign in which seven armies, under five commanding generals, operated in a unified effort to defeat the Confederate forces and end the war.[29] His ability to take advantage of the new technology and maneuver his forces over such vast areas was unprecedented; however, more impressive than Grant's ability to distribute his forces was the fact that he directed them toward a single end. General Sherman, understanding the significance of this revolution in warfare, stated, "That we are now all to act on a common plan, converging on a common center, looks like enlightened war."[30] Not only did Grant's operational artistry illustrate a brilliant response to the new distributed battlefield, it also established a paradigm within the American military of the arrangement of tactical actions guided by the objective.

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[28] Epstein, *Napoleon's Last Victory,* 171.

[29] Schneider, *Vulcan's Anvil*, 40.

[30] William T. Sherman, *Memoirs, Volume 2* (New York: Da Capo, 1984), 29.

Half a century later, America brought its growing appreciation of operations forward into the entrenched theater of the First World War. Unlike the sprawling battlegrounds of the Civil War, in which movement and maneuver were essential, the European theater centered on a single immobile line. Therefore, the U.S. Army broadened its view of tactical actions to include not only space, but time as well. As French Field Marshal Foch, supreme commander of the Allies, devised a plan to use America's fresh troops as his main effort to break the enemy lines, General Pershing orchestrated phased operations for the maneuver corps of his First U.S. Army. Rather than attempting to affect a breakthrough with one big push, his three corps penetrated into German lines, opening narrow gaps from which they could attack the enemy's exposed flank and drive them back.[31] The Americans had success by making relatively small gains on each successive push, continually sustaining their phased operations while pursuing their objective.[32] The timing associated with these sequential phases allowed the Army to use its tactical actions in a methodical stepping-stone approach toward its strategic objective of capturing a critical rail line.

Whereas, in World War I, the US Army coordinated and phased operations in a confined area, the war's sequel knew no bounds. In the truly global war of World War II, spanning across the Atlantic and Pacific, the U.S. Army broadened its view of phasing. The enormity of the synchronized, phased operations the United States and its allies fought in 1944-45 dwarfed even the distributed operations that Grant orchestrated in the southern states eighty years earlier. The operation also called for more sophisticated phasing than the efforts in the trenches of the previous war. However, the principles remained the same; the land force had to set conditions, by

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[31] George C. Marshall, *Memoirs of My Service in the World War: 1917-1918* (Boston, MA: Houghton Mifflin Company, 1976), 132.

[32] American Battle Monuments Commission, *American Armies and Battlefields in Europe*, 1992 ed. (Washington D.C.: U.S. Government Printing Office, 1938; reprint, Washington D.C.: U.S. Army Center of Military History), 172-173.

either shaping the battlefield ahead or ensuring sustainment in the rear, before moving forward. In developing plans to attack Japan over the great expanse of the Pacific, Michael Matheny writes, "phasing was evident in every solution," a lesson the Army carried forward from World War I.[33]

In addition to phasing, World War II also gave the Army an even greater appreciation for its dependency on the other services. Joint operations played a central role in the Allies march from Normandy to Berlin and in island hopping through the Pacific to Tokyo.[34] The experience the Army gained during the two campaigns helped the Army refine its concepts of cooperation as well as its overall operational perspective. However, the war ended with an event that would make operational artist question everything they knew.

The use of atomic weapons against Japan marked the end of the Second World War, but it was also the perceived beginning of new age in warfare. The introduction of such a massive offensive weapon brought the idea of decisive warfare back into the minds of many. Dr. Echevarria II notes, "To many scholars and defense intellectuals, it appeared that conventional warfare had become obsolete."[35] In fact, the Army struggled greatly with this issue; the absence of a conventional war meant that the Army's way of war demanded an overhaul. By 1948, the Army began exploring the tactical use of atomic weapons, resulting in the production of a tactical nuclear cannon, as well as new formations and tactics, which the Army deemed survivable on a nuclear battlefield.[36]

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[33] Michael R. Matheny, *Carrying the War to the Enemy: American Operational Art to 1945* (Norman, OK: University of Oklahoma Press, 2011), 83-84.

[34] For a description of the operational art employed in the European theater, see Russell F. Weigley, "Normandy to Falaise: A Critique of Allied Operational Planning in 1944," in *Historical Perspectives of the Operational Art* (Washington D.C.: Center of Military History, 2007), 393-413. For a description of the planning for the Pacific theater, see Michael R. Matheny, *Carrying the War to the Enemy: American Operational Art to 1945* (Norman, OK: University of Oklahoma Press, 2011), 76-77.

[35] Echevarria II, "American Operational Art," 154.

[36] Robert A. Doughty, "The Evolution of U.S. Army Tactical Doctrine, 1946-76," *Leavenworth Papers* No. 1 (Fort Leavenworth, KS: Combat Studies Institute, August 1979), 12-19.

The Army's confusion over its role in the midst of the new nuclear age manifested itself in the operational void of Vietnam. The Army was blind to the operational perspective it had previously developed and it exchanged the tried and true method of coordinating phased, sustainable actions for the perceived necessity of winning battles. Dr. Everett Dolman, professor at the Air Force's School of Advanced Air and Space Studies, emphasizes the danger of this mentality in his book, *Pure Strategy*, warning that, "the cross-purposes of tactical ends and military power could lead to strategic inefficiencies where tactical logic supplants operational and strategic purpose."[37] This was certainly the case in Vietnam, where commanders sought near-term goals. The results of this war awakened the Army to its neglect of operational art and sent it on a quest for rediscovery.

Developing an Operational Theory

Despite the fact that the Army's operational perspective has always depended primarily on experience rather than theory, the nuclear advent and the strategic loss to North Vietnam had muddied the operational waters, and sent the Army looking for answers. LD Holder writes that the study of operations ended in the US Army after World War II, pinning the failure on the primacy of nuclear warfare.[38] After Vietnam, in which tactical success had not led to strategic victory, it was obvious that something was missing in the Army's warfare concept, and leaders sought to relieve the conceptual tension between the abstract ideas of strategy and the physical acts of tactics.[39] Even though their previous experience had taught them much about operational art, the Army never codified the concept in doctrine and therefore never fully internalized it

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[37] Everett Carl Dolman, *Pure Strategy: Power and Principle in the Space and Information Age* (New York: Routledge, 2005), 36.

[38] L.D. Holder, "A New Day for Operational Art," *Operational Level of War-Its Art* (Carlisle Barracks, PA: US Army War College, 1985), 4-1-4-2.

[39] Richard M. Swain, "Filling the Void: Operational Art and the U.S. Army," in B.J.C. McKercher and Michael Hennessy, ed. *Operational Art: Developments in the Theories of War*, 148.

within its culture. The Army had seemingly lost what it had paid so dearly to discover, and so began a search to regain it. Dr. Richard Swain, a former instructor at SAMS, cites two major developments that led to real progress in the formation of the Army's theory of operational art: the reading of Clausewitz and the discovery of Soviet deep battle theory.[40]

Although Carl von Clausewitz wrote his treatise, *On War*, in the early nineteenth century, it was not until Peter Paret and Michael Howard's English translation appeared in 1976 that it was widely read in the United States. In the book, Army professionals found what Dr. Swain called "a source of disquiet about the conduct of the late conflict in Southeast Asia."[41] Clausewitz wrote, "If fighting consisted of a single act, no further subdivision would be needed." Clearly departing from the single decisive battle, he went on to write:

> It consists of a greater or lesser number of single acts, each complete in itself, which… are called "engagements" and which form new entities. This gives rise to the completely different activity of planning and executing these engagements themselves, and of coordinating each of them with the others in order to further the object of war.[42]

The US Army had missed this idea of "coordinating" battles during the Vietnam War, but after reading the Prussian's theory, the service rediscovered what it had previously understood; tactical actions, arranged in time and space, must pursue strategic goals. However, the Army still had trouble fitting the idea into its lexicon and therefore cementing it into its operational perspective. Clausewitz, though he had presented a useful concept, did not help with its nomenclature. He wrote, "Tactics teaches the use of armed forces in the engagement; strategy, the use of engagements for the object of the war."[43] Clausewitz was not describing strategy as the Army understood it; it was obviously something different, but what exactly was not yet clear. Fortunately, at nearly the same time Army leadership was struggling with Clausewitz's ideas,

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[40] Swain, "Filling the Void," 162.

[41] Ibid.

[42] Carl von Clausewitz, *On War*, trans. and ed. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 128.

[43] Ibid., 128.

they stumbled upon a complimentary theory, which added clarity to both the concept and its name.

The Cold War necessitated a detailed study of the threat posed by the Soviet Union. General William DePuy, the first commander of the Army's Training and Doctrine Command (TRADOC), established in the early 1970s, felt that, after Vietnam, the Army's doctrine should re-focus on the European theater and encouraged his writers and researchers to study Soviet doctrine in order to respond to the threat.[44] What they found was of more use than they had anticipated. Several Soviet theorists, such as Tukhachevskii and Triandafillov, had developed a concept in response to the World War I stalemate-type warfare that characterized the Western front, reintroducing the idea of depth of the battlefield.[45] The Soviet theory used what they referred to as "operational art," which brought several concepts to light. The theorists began by examining the idea of space on the battlefield. Whereas the World War I battlefield had spread in width, in a linear form of warfare, the new Soviet theory relied on depth. G.S. Isserson explained the logic: "The central challenge for our operational art is to be ready in all respects for the dialectical transition from enveloping linear maneuver to the deep frontal penetration. This necessity flows immediately from the requirement for transition from one operational method to another."[46] As the Soviets saw it, redefining the battlespace, in and of itself, did not constitute operational art, but it did necessitate it.

The increased depth of the battlefield convinced Soviet theorists that they could not defeat the opposing army in a single crushing battle, but instead, they would have to pursue the objective through operations consisting of a series of tactical actions. SS Kamenev stated, "In the

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[44] Swain, "Filling the Void,"162.

[45] Richard W. Harrison, *Architect of Soviet Victory in World War II: The Life and Theories of G.S. Isserson* (Jefferson, NC: McFarland & Company, Inc., 2010), 71.

[46] Georgi Samoilovich Isserson, *The Evolution of Operational Art*, trans. Bruce W. Menning (Moscow: The State Military Publishing House of the USSR People's Defense Commissariat, 1937), 45.

warfare of modern huge armies, defeat of the enemy results from the sum of continuous and planned victories on all fronts, successfully completed one after the other and interconnected in time."[47] This concept played out in the Soviet "deep battle theory," which first called for a meeting engagement that would disrupt the enemy front, softening the enemy fortifications for the second, breakthrough engagement; they organized the efforts toward the objective of penetrating the "entire depth" of the enemy lines.[48] These coordinated tactics aimed at accomplishing a strategic goal, or "operational art," reinforced Clausewitz's principle and represented the link the US Army had been seeking to bind its tactical actions to the purpose of strategy.[49]

Americans also found useful the way in which Soviet tactics dealt with the concept of time, as they stressed both phasing and simultaneity in the theory. The abstract model divided the battlefield into zones by depth, striking each simultaneously by direct fire, indirect fire, and air. When these fires accomplished the desired effects, a new phase began, shifting the fires to the next level of depth.[50] The concept of phased simultaneity harnessed operational art, took full advantage of modern technologies, and exploited the entire depth of the battlefield.

In order to have the desired effects deep in the enemy's formation, the Soviet Army relied heavily upon the ideas of combined arms and joint operations. The infantry, cavalry, and mechanized forces had to work in unison while coordinating their movements with artillery and airpower. Deep battle theory stressed service interdependence to bring maximum strength to bear on the enemy.[51]

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[47] Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (London: Frank Cass, 1997), 182.

[48] Harrison, *Architect of Soviet Victory in World War II*, 139.

[49] Naveh, *In Pursuit of Military Excellence*, 274-275.

[50] Harrison, *Architect of Soviet Victory in World War II*, 69.

[51] Ibid.

In its discovery of Clausewitz and Soviet operational theory, the Army found the lens through which it could look at its own history and see how it operated in the past. Swain writes, "The discovery, perhaps the rediscovery, of operational art – the creative activity practiced at the operational level – was therefore a by-product of trying to understand the American loss in Vietnam."[52] The Army's regard for operational art is the result of over two centuries of experience, but it was the shock of Vietnam that drove the quest for a theory, and the combined readings of a Clausewitz and the Soviets that helped them articulate that theory.

The Army's Operational Doctrine

The U.S. Army's definition of operational art, as expressed in Army Doctrine Publication 3-0, "the pursuit of strategic objectives, in whole or in part, through the arrangement of tactical actions in time, space, and purpose," does not represent a new concept, rather it is an articulation of the Army's understanding of operational art, refined by a study of history and theory. [53] The term operational art did not enter the Army's lexicon until the 1986 version of FM 100-5, *Operations* (the precursor to the modern FM 3-0), after over a decade of study, discourse, and reflection.[54] This section looks at operational art within the larger context of Army doctrine, examining how the service defines the concept, to capture its operational perspective.

Whether the Army's plans and operations are enemy-focused or terrain-focused, they are steadfast in their belief, as expressed in its capstone doctrine manual, FM-1, that "decisive resolution of conflicts normally occurs on land." That being the case, they hold that "landpower is unique because only land forces can occupy, control, and protect vital areas. People and resources—the participants, supporters, and objectives of land operations—can only be controlled

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[52] Swain, "Filling the Void" 162.

[53] ADP 3-0, *Unified Land Operations*, 9.

[54] Field Manual (FM) 100-5, *Operations* (Washington D.C.: HQ DA, May 1986), 179.

or protected by land forces."[55] This institutional belief demonstrates that the Army perspective does not merely come from the fact that the service operates on land, but a view rooted in experience that land is both a necessary medium and an essential objective.

Based on the Army's two-dimensional view of the battlefield and its emphasis on holding land, its definition of operational art articulates the ways in which it can pursue the aim and emphasizes the use of tactical action. ADP 3-0 identifies "the arrangement of tactical actions in time, space, and purpose" as "the task of operational art."[56] The "arrangement" is a key aspect of the army's view because of its suspect view of decisive battles. The publication also makes this point clear: "Hypothetically, military forces might accomplish a strategic objective through a single tactical action, eliminating the need for operational art. In reality, the scale of most modern conflicts and the ability of enemy forces to retain their operational capacity – even in the face of significant tactical defeats – make this an exceptionally rare event."[57] This concept is consistent with Clausewitz's idea of "coordinating" engagements "in order to further the object of war." [58] Doctrine clearly articulates the Army's view that arranging, or coordinating, tactical actions as an absolute necessity.

Just as "the arrangement of tactical actions" is the task of operational art, the "pursuit of strategic objectives, in whole or in part" is its aim. ADP 3-0 explains this concept by presenting the case that operational art is used to "create and maintain the conditions necessary to seize, retain, and exploit the initiative and gain a position of relative advantage while linking tactical actions to reach a strategic objective."[59] In 1903, Colonel Arthur Wagner addressed a group of Army officers, and described this aspect of operational art: "The choice of the objective in

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[55] Field Manual (FM) 1, *The Army* (Washington D.C.: HQ DA, June 2005), 3-8.

[56] ADP 3-0, *Unified Land Operations*, 9.

[57] Ibid.

[58] Clausewitz, *On War*, 128.

[59] ADP 3-0, *Unified Land Operations*, 10.

strategic operations is influenced by many considerations. The enemy's main army is always the true objective; but there will often be intermediate objectives as necessary steps in reaching the ultimate object."[60] The word "pursuit" reveals a key to understanding the Army's view of operational art. Since there is no direct link between tactics and strategic objectives, there is an intermediate step, making it a pursuit. In the Army's view, tactical actions do not accomplish strategic aims; rather, commanders arrange them to pursue these aims.

Inherent to the concept of arrangement, the realms of time, space, and purpose in which the army conducts tactical actions are also significant. Anticipating a resilient enemy, operational artists must consider how they may best use time and space in a unified purpose. Michael R. Matheny, in his assessment of the American idea of operational art, states, "Phasing recognizes the futility of the decisive battle," and declares that it "was perhaps the single most important innovation in military planning in the twentieth century."[61] According to Army Field Manual 3-0, phasing, which it classified as an element of operational art, represents the "ability of Army forces to extend operations in time and space," allowing commanders to engage "more objectives and decisive points than the force can engage simultaneously."[62] The stepping stone approach does not inhibit Army forces from striking deep and close at the same time, as epitomized by Soviet deep battle theory, but allows commanders to create certain conditions before taking the next step. Phasing compliments the Army's idea of the arrangement of tactical actions.

Army doctrine is explicit in stating that its ability to apply operational art is dependent on the other services. As ADP 3-0 states, "The Army depends on its joint partners for capabilities

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[60] Arthur L. Wagner, *Strategy: A Lecture Delivered by Colonel Arthur L. Wagner, Assistant Adjutant-General, U.S.A., to the Officers of the Regular Army and National Guard at the Maneuvers at West Point, Ky., and at Fort Riley, Kansas, 1903* (Kansas City, MO: Hudson-Kimberly Publishing, 1903), 43.

[61] Matheny, *Carrying the War to the Enemy*, xviii.

[62] Field Manual (FM) 3-0, *Operations* (Washington D.C.: HQ DA, 24 February 2011), 7-14.

that do not reside within the Army, and it cannot operate effectively without their support."[63] The Army's early intent for and dependence on its air arm did not change when the air service gained its independence in 1947; however, without direct control over Air Force assets, it must seek to work closely with its sister service to accomplish its goals. As such, doctrine places an emphasis on integration, which "involves efforts to exercise, inform, and influence activities with joint, interagency, and multinational partners."[64] The Army's operational perspective, as stated in its doctrine, is one requiring joint interdependence in arranging tactical actions.

Summary of the Army's Operational Perspective

The phased, arrangement of tactical actions successfully employed throughout the US Army's history, along with their underlying worldview that precludes decisive battle, has led the force toward a stepping-stone concept of warfare. Although, as Swain points out, their doctrine possesses elements of Liddell Hart's concept of the indirect approach, it is still more consistent with J.F.C. Fuller's idea of the "successive destruction of fractions of the enemy's force by masses of one's own." [65] The Army's idea of operational art is that tactical actions bring about conditions, which set up the next set of tactical actions, and so forth. Therefore, the arrangement of tactical actions tends to work in sequence, like steps, ultimately arriving at the strategic goal.

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[63] ADP 3-0, *Unified Land Operations*, 3.

[64] ADP 3-0, *Unified Land Operations*, 7.

[65] Richard M. Swain, *"Lucky War" Third Army in Desert Storm* (Fort Leavenworth, KS: U.S. Army Command and General Staff College Press, 1994), 72.

III. The Air Force's Operational Perspective

The Air Force's Perspective through History

The corporate Air Force perspective of operational art flowed from the earliest pioneers of aviation in the Army's air arm. When the aircraft came onto the scene in 1903, it not only opened up the third dimension, it roused the imaginations of those who flew. Aviation's introduction to the U.S. Army in 1907 as a section in the Signal Corps is indicative of the views of most, who saw the aircraft as a wonderful compliment to normal land operations, providing communications, observation, and reconnaissance in a subordinate role to the army.[66] Others, however, envisioned a much greater potential for the aircraft. Highly dependent on their machines, aviators were encouraged by the rate at which technology and capabilities evolved and therefore looked into the future and theorized about what could be done in the advancing world of aviation.

As its first taste of combat, the First World War brought foundational experience to the fledgling force. Rising above the two-dimensional view, airmen gained a new appreciation for the aspect of space. While a stalemate kept the armies entrenched and immobile, the skies offered no such impediments. William "Billy" Mitchell, in command of Pershing's Air Service during the war, observed "mountains, deserts, oceans, rivers, and forests, offer no obstacles," which made one place "just as exposed to attack as another."[67] In the minds of aviators, the battle space had opened up tremendously with the addition of the third dimension.

The natural progression from this new idea of space was a new perspective of the objective. Major George F. Eliot wrote, "The airplane, for the first time in the long and bloody history of human conflict, has given to warfare the means of striking, not only at the army or navy

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[66] Greer, *The Development of Air Doctrine*, 1.

[67] William Mitchell, *Winged Defense*, in *Roots of Strategy: Book 4*, ed. David Jablonsky (Mechanicsburg, PA: Stackpole Books, 1999), 431.

of the opponent, but directly at the seat and source of his power… without first having to overthrow the armed forces."[68] The concept of bypassing, not only the terrain, but the enemy force, differed greatly from the Army perspective. The Air Service theorized that it could break the enemy's will by bombing its sources of power. Of course, at the time, this was still merely theory. As Thomas Greer pointed out in his book about the development of the air doctrine, when war broke out in Europe in 1914, "the war had to be fought with available, not potential weapons."[69] Despite the fact that aviation had not reached its perceived potential during the war, it did make massive strides, and young aviators began to see the decisive potential of airpower. Mitchell carried the torch for these young airmen and had plans to develop a strategic bombing force, but the war ended before he had the chance. General Henry "Hap" Arnold later wrote that "for Billy, the Armistice was an untimely interruption—as if the whistle had ended the game just as he was about to go over the goal line."[70] Mitchell himself even admitted his disappointment: "I was sure that if the war lasted, air power would decide it."[71] Advances during the First World War convinced airpower theorists like Mitchell that they were on the cusp of proving airpower as the dominant form of war.

Mitchell believed that bombardment would reach strategic objectives directly by either breaking the enemy's will or by destroying their ability to wage war. The beliefs of many airmen coincided with those of Mitchell, who wrote in his 1925 treatise, *Winged Defense*:

> Heretofore, to reach the heart of a country and gain victory in war, the land armies always had to be defeated in the field and a long process of successive military advances made against it. Broken railroad lines, blown up bridges, and destroyed roads, necessitated months of hardships, the loss of thousands of lives, and untold wealth to accomplish. Now an attack from an air force using explosive bombs and gas may cause

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[68] Greer, *The Development of Air Doctrine*, vii.

[69] Ibid., 3.

[70] James P. Tate, *The Army and Its Air Corps: Army Policy toward Aviation, 1919-1941* (Maxwell AFB, AL: Air University Press, 1999), 2.

[71] Greer, *The Development of Air Doctrine*, 13.

> the complete evacuation of and cessation of industry in these places. This would deprive armies, air forces, and navies even, of their means of maintenance.[72]

Mitchell's teachings laid the foundation on which future airpower theorists and technicians would build.

The Army's Air Corps Tactical School (ACTS) in Montgomery, Alabama, propagated Mitchell's ideas of bypassing the enemy force and striking strategic targets.[73] Captain Harold George, a bombardment instructor at the school, articulated how bombardment would break the enemy's will. He taught, "It is bombardment aviation which possesses this ability to paralyze a nation, and such paralysis would soon induce the feeling of helplessness and helplessness soon induces hopelessness and it is the loss of hope, it the loss of lives, that decides the issues of war."[74] George and his fellow instructors at ACTS retransmitted a refined version of Mitchell's theory to the Air Corps and future Air Force leaders in the years leading up to the Second World War.

The unique perspective of three-dimensional space providing a direct path to the objective, which the Air Force developed during World War I and refined in the interwar period, influenced the Air Force's approach in World War II. The Army Air Forces entered the war with Air War Plans Division plan number one (AWPD-1), which Air Force historian, Bernard C. Nalty, described as "nothing less than a plan for defeating Germany by means of aerial bombardment."[75] A direct reflection of the principles taught at the ACTS, the plan called for the prioritized strategic bombing; the targets were the electric power grid, then transportation networks, followed by oil production, and finally the German *Luftwaffe*.[76] Such targeting

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[72] Mitchell, *Winged Defense*, 433.

[73] Matheny, *Carrying the War to the Enemy*, 114.

[74] Ibid.

[75] Nalty, *Winged Shield, Winged Sword*, Vol I, 187.

[76] Barry D. Watts, *The Foundations of US Air Doctrine: The Problem of Friction in War* (Maxwell AFB, AL: Air University Press, 1984), 19.

illustrates how the Air Forces view of attacking the objective directly fed straight into its perception of tactical action; the Army Air Forces took an analytical approach to warfare, identifying critical nodes in the enemy's economic and war-producing structure. From the air perspective, coordinating tactical actions meant selecting the right targets and striking them sequentially or simultaneously in order to achieve the highest payoff.[77]

While attempting to negate the Army's perceived necessity for phasing to reach strategic objectives, Air Corps theorists greatly underestimated their own need to practice the art. Bombardment theory, as it stood going into World War II, assumed that, as Barry Watts notes, "well-planned, well-flown bomber formations could always get through and, hence, that such formations could be self-defending."[78] From the beginning, airpower theorists had anticipated the need for air superiority, but had greatly miscalculated the effort it would take to achieve it. Giulio Douhet, one of the earliest airpower theorists, saw the need to conquer the "command of the air," but believed bombers could gain it easily by striking the enemy's airplanes on the ground before the enemy could use them.[79] Mitchell agreed: "The only defense against aircraft is by hitting the enemy first, just as far away from home as possible."[80] Both men discounted anti-aircraft guns as incapable of affecting aerial operations. By the late 1930's, airmen at the ACTS gave greater credence to both air-to-air and surface-to-air threats, but rather than think through how to gain air superiority, they abandoned the concept and instead clung to the notion that bombers could fight their way through.[81] In essence, the Air Corps's view kept tactical actions directly linked to strategic objectives, without intermediate steps.

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[77] Watts, *The Foundations of US Air Doctrine*, 22.

[78] Ibid., 18.

[79] Giulio Douhet, *The Command of the Air*, trans. Dino Ferrari, in *Roots of Strategy: Book 4*, ed. David Jablonsky (Mechanicsburg, PA: Stackpole Books, 1999), 293.

[80] Mitchell, *Winged Defense*, 507.

[81] Greer, *The Development of Air Doctrine*, 82.

Of the four objectives listed in AWPD-1, the first three were considered "primary targets," while the *Luftwaffe* was an "intermediate target" that would enable the others, hinting toward the Army's concept of phasing.[82] However, the Air Service's unwavering faith in its bomber force made air superiority arbitrary and thus a lower priority. One of the great promises of airpower rested in the element of timing; aircraft could attack targets simultaneously, without the necessity of phasing. In a power struggle with their parent service, it was difficult for the leaders of the Air Service to admit to limitations. However, in Europe, as the German air defenses and fighter aircraft frustrated the strategic bombing campaign, the "intermediate objective" of the *Luftwaffe* quickly climbed to the top of the priority list and the futility of opposed bombardment became clear.[83] As the Air Service's operational perspective evolved, they reluctantly embraced a broader view of timing.

The Air Force's own understanding of its decisive capabilities inclined them to cling to the notion of independent action. They longed to break away from the subjugation of the Army and the tactical role of supporting land operations and thus emphatically called for its independence as a service. However, at the onset of World War II, the distances involved in Pacific theater required the services to work together. Once again, the Army Air Force had to fight with the weapons they had, not those they theorized, and no bombers could span the width of the Pacific. In the island hopping campaign, the Army Air Forces cooperated with carrier-based naval air and operated from airfields captured by amphibious assaults or built by land forces.[84] The lessons in operational art, drawn from both theaters, should have been obvious to the leaders of the air service; however, two issues clouded their view: the effectiveness of the atomic bomb and their intense desire for an independent Air Force.

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[82] Greer, *The Development of Air Doctrine*, 82.

[83] Watts, *The Foundations of US Air Doctrine*, 62.

[84] Nalty, *Winged Shield, Winged Sword*, Vol I, 366.

Just as the atomic advent had persuaded the Army to abandon much of what it had learned about operational art, it had the same effect on the Air Force. Major General Perry Smith, former commandant of the U.S. National War College, described the situation: "Strategic bombardment had won its case, and the ignored lessons of World War II could remain ignored by the public, Congress, the Air Force, and all others except the inquiring scholar or the parochial Army or Navy man."[85] Immediately after the war, General Henry, "Hap" Arnold, Commanding General of the U.S. Army Air Forces, sought to "examine the atomic bomb in the context of strategic bombardment, looking on it as an aerial weapon capable of inflicting severe damage rather than as a scientific phenomenon."[86] Viewed in such a light, the two blasts had validated the theories of Douhet and Mitchell and de-emphasized the need for phasing or dependence on another force.[87] In fact, with an "atomic monopoly," Air Force Generals Arnold and Spaatz began promoting the strategy of "massive retaliation" as early as the fall of 1945.[88] The success of the atomic bomb created what General Perry referred to as a "blindness," which would not allow the service to see the terrible losses that unescorted bombers had taken during its offensives.[89]

Air Service leaders also allowed their intense desire for independence to cloud their perception of reality. Carl Builder, in his assessment of the Air Force's strategy, wrote, "The blindness was induced by doctrine, and though the doctrine was built around a theory of air

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[85] Perry McCoy Smith, *The Air Force Plans for Peace, 1943-1945* (Baltimore, John Hopkins University Press, 1970), 17.

[86] Nalty, *Winged Shield, Winged Sword*, Vol I, 366.

[87] R. A. Mason, ed., *War in the Third Dimension: Essays in Contemporary Air Power* (London: Brassey's Defence Publishers, 1986), 4.

[88] Peter Paret, ed., *Makers of Modern Strategy: from Machiavelli to the Nuclear Age* (Princeton, NJ: Princeton University Press, 1986), 641.

[89] Smith, *The Air Force Plans for Peace*, 112.

power, it was motivated by the prospect of institutional independence."[90] Smith made the argument this way:

> If flights of bombardment aircraft could be turned back, or if the defensive fighters could inflict unacceptable losses upon the bombing formation, then the whole concept of strategic bombardment would be proved erroneous, and the Air Corps would then be expected to accomplish only close support, air superiority, and interdiction, none of which (nor all in combination) could justify complete autonomy.[91]

The Air Service saw that its ability to pursue direct strategic action was dependent upon its independence, while at the same time, its independence was contingent upon the success of direct strategic action.

The debate as to whether the Air Force sought independence as a means to facilitate independent air action or if strategic bombardment was a means to gain an independent Air Force is irrelevant, as both result from an abiding faith in airpower and the passion with which airmen pursued their direct strategic ends. The Air Force effectively sold its dominance in war to a government looking for a strategic solution to national defense at a minimum cost.[92] Army Chief of Staff, General Dwight Eisenhower, supported the service's independence, provided that it maintain a strong and capable tactical force.[93] The newly formed Air Force complied; however, they way they did so again demonstrated their priorities by creating the Tactical Air Command (TAC), led by two-star General Elwood "Pete" Quesada, and the Strategic Air Command (SAC), headed by four-star General George Kenny.[94] The latter command continued to carry the flag for the Air Force as it advocated the use of its long-range bombers and nuclear weapons to deter would-be foes and win quickly and cheaply in the unlikely case of war.

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[90] Builder, *The Masks of War*, 71.

[91] Smith, *The Air Force Plans for Peace* 30-31.

[92] Mike Worden, *Rise of the Fighter Generals: The problem of Air Force Leadership, 1945-1982* (Maxwell AFB, AL: Air University Press, 1998), 28.

[93] Ibid., 29.

[94] Ibid., 30

When the United States went to war with Korea, the three-year-old service scrambled to find a way to use its strategic prowess to end the war quickly; however, there were few suitable targets on the Korean peninsula and the Air Force was compelled to rely on its TAC.[95] The Air Force played its role in the joint strategy by performing the same tactical missions it had seen in World War II: cutting supply lines, attriting enemy troops, and maintaining command of the skies.[96] After the three-year war, American sentiment favored avoiding further costly limited wars, and the Air Force was more than willing to oblige. Resources continued to flow in the direction of SAC over TAC as the service ignored its most recent lessons and focused again on decisive nuclear war.[97]

As another limited war kicked off in Vietnam in 1965, the Air Force lobbied for a strategic air campaign against critical targets in North Vietnam, but what General William Momyer referred to as the "very, very, limited political objective" and fear of Chinese involvement constrained the Air Force once again.[98] Though political strategy oscillated in regards to its stance on bombing the north throughout the war, the Air Force relied primarily on the experience it had gained in Korea. The North Vietnamese Surface to Air Missiles (SAMs), Anti-Aircraft Artillery (AAA), and Soviet manufactured MiG aircraft created a significant obstacle to American airpower and brought the focus back onto the need for air superiority.[99] Although LINEBACKER II, an unrestricted 11-day bombing offensive against Hanoi in December 1972, was viewed by most airmen as decisive, the Vietnam War represented a subtle

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[95] William W. Momyer, *Air Power in Three Wars: WWII, Korea, Vietnam* (Maxwell AFB, AL: Air University Press, 2003), 3.

[96] Ibid., 5.

[97] Bernard C. Nalty, ed., *Winged Shield, Winged Sword: A History of the United States Air Force, Volume II 1950-1997* (Washington, D.C.: Air Force History and Museums Program, 1997), 52.

[98] Momyer, *Air Power in Three Wars*, 22.

[99] Ibid., 30-32.

shift in the Air Forces view of operational art.[100] The intense air defense system in North Vietnam had caused TAC to do most of the heavy lifting during the campaign. Before the war, Chief of Staff of the Air Force, General Curtis LeMay quipped, "Flying fighters is fun. Flying bombers is important."[101] After the war, fighters had emerged as both a tactical and a strategic asset, which would give tactical flyers a greater voice.[102]

Still immersed in the Cold War after Vietnam, the Air Force underwent significant change. World War II and early SAC leaders were retiring, and the force was in need of modernization.[103] The new leaders could look back at the last two wars and see how the Air Force had to do more than just bomb critical targets to bring victory. Aside from the interdiction and close air support sorties flown in support of ground troops, airmen realized they could not employ their decisive assets without first paving the way through air superiority. To accomplish this, the Air Force acquired state-of-the-art fighters, such as the F-15 and F-16, and they made efforts to improve realistic training.[104] Strategic bombing, along with its new counterpart the intercontinental ballistic missile, was not taking a back seat to tactical air, but it was at least sharing the stage with an admittedly necessary force.

Vietnam had also proven that the limited conventional war in Korea was not a fluke. The idea that wars would be decided, or even affected by nuclear weapons was fading, and the Air Forces claim to have the knock-out punch was fading along with it.[105] The service had to consider how to fight and win wars with or without the aid of nuclear weapons. Much like the Army's soul-searching after Vietnam, the Air Force had some loose ends to tie up as well.

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[100] Momyer, *Air Power in Three Wars*, 33-34.

[101] Worden, *Rise of the Fighter Generals*, 55.

[102] Ibid., 186-188.

[103] Nalty, *Winged Shield, Winged Sword*, Vol II, 339.

[104] Ibid., 347.

[105] Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam* (New York: The Free Press, 1989), 19.

The Air Force's Operational Theory

Theory has played a major role in the development of the Air Force's operational perspective. Whereas the Army leans heavily on history, looking to what worked in the past, and has used theory and doctrine to help frame and codify it, the Air Force looks to the future at what may be possible. General Mitchell wrote in his book, *Winged Defense*, "In the development of air power, one has to look ahead and not backward and figure out what is going to happen, not too much what has happened."[106] This sentiment has pervaded Air Force culture not only because of its short history, but also because of its dependence on technology. RAND researcher Carl Builder argued that the Air Force worships "at the altar of technology," stating that "if flight is a gift of technology, and if the expansion of technology poses the only limits on the freedom of that gift, then it is to be expected that the fountain of technology will be worshiped by fliers and the Air Force."[107] Technological advancements have continuously given rise to theories of what may be possible, giving the Air Force a different perspective of operational art. Rather than looking to history alone, the airman's operational perspective is heavily influenced by theory.

Early airpower theorists Giulio Douhet and Billy Mitchell established some foundational principles upon which much of today's theories still stand. The uses of the third dimension to exploit the depths of the battlefield and the direct pursuit of the objective of war have endured. However, through the experiences of combat, airmen have tried and reformed airpower theory through the generations. Two of the most eminent and influential theorist of the modern era are John Warden III and David Deptula, both of whom developed a theory with regard to how the Air Force views timing and tactical actions. Warden articulated the concept in his book, *The Air Campaign*, which greatly influenced the Air Force's corporate view of warfare; the Air Force

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[106] Mitchell, *Winged Defense*, 444.

[107] Builder, *The Masks of War*, 19.

Chief of Staff even had it distributed among the Air Staff as mandatory reading.[108] The book, which addressed the use of airpower in the operational level of war, expressed Warden's concept through five concentric rings, "the innermost being leadership, then key production, infrastructure, population, and finally, fielded military forces."[109] After establishing air superiority, the Air Force then has access to attack any or all of the rings.[110] In his theory, Warden advocated the two-phased process envisioned first during World War II and then again in Korea and Vietnam; after initially maneuvering against and defeating enemy air defenses, the Air Force could exploit its advantageous position to attack targets simultaneously.

David Deptula's theory was similar, but placed less emphasis on the first phase. In his model, attacks on enemy targets, including enemy air defenses, could be made "in parallel," referring analogously to an electronic circuit in which "electricity reaches all the lights virtually at the same time."[111] This system of "parallel warfare," like Warden's rings, emphasized the Air Force's ability to strike an array of targets simultaneously.

Warden's rings pointed to more than just his concept of phasing; they also helped conceptualize tactical actions as targeting. Although this process is often seen as scientific, Warden disagreed and pointed out that "perhaps the most important responsibility of a commander was to identify correctly and strike appropriately enemy centers of gravity," or the point where "an attack will have the best chance of being vulnerable."[112] He theorized that the commander should back up choices with as much analysis and math as possible, but ultimately, it

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[108] Richard T. Reynolds, *Heart of the Storm: The Genesis of the Air Campaign Against Iraq* (Maxwell AFB, AL: Air University Press, 1995), 30.

[109] John A. Warden III, *The Air Campaign: Planning for Combat* (San Jose, CA: toExcel Press, 2000), 17.

[110] Ibid.

[111] David A. Deptula, *Effects-Based Operations: Change in the Nature of Warfare* (Arlington, VA: Aerospace Education Foundation, 2001), 4.

[112] Warden, *The Air Campaign*, 7.

is upon the shoulders of the artist to choose the most effective targets. Given the five categories of targets, airmen have long held that the inner circles, those of leadership, industry, and infrastructure, are the "quickest and cheapest" path to victory.[113] The direct attacks on "centers of gravity" produce indirect effects on the enemy forces, paralyzing them and making them vulnerable to friendly exploitation.[114] Deptula echoed Warden's targeting principles and expanded the concept. In what he refers to as "effects-based operations," precision weapons and stealth technology allow an air force to not only hit targets simultaneously, but to affect them in a controlling manner. The essential idea is that "nerve centers" of the "enemy's core systems" can be targeted in such a way as to render them unable to fight.[115] Thus, the enemy army may be defeated without even fighting them. These theories, which have both shaped, and been shaped by experience, help explain the concepts underlying the Air Force's operational perspective.

The Air Force's Operational Doctrine

Air Force Doctrine Document (AFDD) 2 contains the Air Force definition of Operational Art: "the essential link between the overall strategy for the operation or campaign and the tactical details of its conduct."[116] The publication further explains, "Operational art takes the ends, ways, means, and risk considerations derived from overall strategy and conceptually links them to operational level effects in campaign plans and similar planning products."

To clarify its view of space, Air Force Doctrine Document 1, *Air Force Basic Doctrine, Organization, and Command*, the senior capstone document of Air Force doctrine, codified a

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[113] Warden, *The Air Campaign*, 117.

[114] Ibid., 116-117.

[115] Deptula, *Effects-Based Operations*, 7.

[116] Air Force Doctrine Document (AFDD) 2, *Operations and Organization*, (Washington D.C.: HQ AFDC/DD, 3 April 2007), 8.

concept entitled "airmindedness."[117] The document states "By making effective use of the vertical dimension and time, air and space forces can wrest the initiative, set the terms of battle, establish a dominant tempo of operations, anticipate the enemy, and take advantage of tactical and operational opportunities, and thus can strike directly at the adversary's strategy."[118] The document claims, "Broader perspective, greater potential speed and range, and three-dimensional movement fundamentally change the dynamic of conflict in a way not well understood by those bound to the surface."[119] The publication indicates that Airmen are less concerned with the location of a target than with the effect of its destruction on the adversary. "This approach," according to AFDD 1, "normally leads to more inclusive and comprehensive perspectives that favor strategic solutions over tactical ones."[120] In fact, the Air Force sees itself as "an inherently strategic force," which "can hold an enemy's strategic centers of gravity and critical vulnerabilities directly at risk immediately and continuously."[121] As this statement indicates, the exploitation of the third dimension leads directly to a different perspective of the objective. As AFDD 2 states, "When employed aggressively, air and space forces can conduct operations aimed directly at accomplishing the JFC's objectives."[122]

With the understanding that it can hold any target at risk, the Air Force's doctrine links tactical actions directly to the intended objectives. AFDD 2 states, "An action, the lowest link in the causal chain, is simply performance of an activity. Effects are the entire set of consequences the actions precipitate, which link the actions to objectives."[123] AFDD 2 defines this process,

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[117] Air Force Doctrine Document (AFDD) 1, *Air Force Basic Doctrine, Organization, and Command* (Washington D.C.: HQ AFDC/DD, 14 October 2011), 18.

[118] AFDD 2, *Operations and Organization,* 3.

[119] Ibid., 14.

[120] Ibid., 18.

[121] Ibid., 19.

[122] Ibid., 12.

[123] Ibid., 86.

known as effects-based operations, or EBO, as, "taking action against enemy systems so as to create specific effects that contribute directly to desired military and political outcomes."[124]

Deptula's articulation of the Air Force's sense of timing is also included in Air Force Doctrine. AFDD 2 states, "Experience has shown that parallel, asymmetric operations are more effective, achieve results faster, and are less costly that symmetric or serial operations." The document defines these parallel operations as an "offensive military action that strikes a wide array of targets in a short period of time in order to cause maximum shock and dislocation effects across an entire enemy system."[125] However, doctrine also allows for Warden's more conservative, two-phased view: "If the enemy strongly challenges our air superiority, we may be forced into serial operations in which all available assets must be dedicated to winning air superiority before any offensive operations other than counterair attack mission are flown." AFDD 2's concluding statement also provides perspective on timing: "Air and space superiority allows simultaneous and rapid attack on key nodes and forces, producing effects that overwhelm the enemy's capacity to adapt or recover."[126]

Concerning their concept of dependence, the Air Force recognizes that there may be a need for cooperation with the joint force, but is also clear that it may not be required. AFDD 2 states, "In some situations decisive operations can be conducted globally, reducing or even negating the requirement for a forward deployment of friendly forces."[127]

Simply by observing the differences between the concepts that the U.S. Air Force present in its doctrine and the views put forth by the Army, one can see the conflicting worldviews. Both view operational art as the "ways," or the "how," that align tactics with strategy, but they have

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[124] AFDD 2, *Operations and Organization*, 85.

[125] Ibid., 11.

[126] Ibid., 11.

[127] Ibid., 12.

very different perspectives. The Army advocates the arrangement of tactical actions, while the Air Force champions the idea that a single tactical action may lead to the strategic goal.

Summary of the Air Force's Operational Perspective

Based upon the capabilities afforded by its technology and air domain, the Air Force's operational perspective is less direct than that of the Army, taking an "inside-out" approach warfare. [128] Whereas the ground force, in its "stepping-stone" approach, finds it necessary to fight the enemy and hold land, the Air Force believes it can bypass both. After taking the necessary measures to ensure air superiority, the Air Force then strikes strategic targets directly. AFDD 3-1 states:

> Once friendly forces can operate without unacceptable risk from enemy attack, aerospace operations often focus on neutralizing the enemy COGs. The goal is to apply force against those points whose disruption will achieve maximum effect in support of aerospace objectives and corresponding theater objectives.[129]

This statement indicates that the priority goes to high-payoff strategic targets. The Army, on the other hand, relies upon aircraft to support its operations. Thus, the Air Force's "inside out" concept runs counter to the Army's "stepping-stone" approach and causes conflict between the services.

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[128] Reynolds, *Heart of the Storm*, 18.

[129] Air Force Doctrine Document (AFDD) 3-1, *Air Warfare* (Washington, D.C.: HQ AF, 28 July 2011), 43.

IV. Effects on Joint Planning

The Joint Test: Operation Desert Storm

Operation Desert Storm, although it is not the most current example of joint operations, remains relevant to the concept of jointness for three reasons. First, the Gulf War was a testing ground for the newly enacted Goldwater-Nichols Defense Reorganization act of 1986, which consolidated the command and control structure of the joint force and marked the beginning of joint doctrine, giving the military a common organization, language, and planning process.[130] Secondly, it represented America's first major conflict since Vietnam and the resulting theoretical and doctrinal reforms made within both the Army and the Air Force. Finally, and most importantly for the purpose of this study, it gives a relevant and useful example of how the Army and Air Force's differing operational perspectives affect the joint planning process, while also illustrating how top leadership successfully merged their views into a joint plan. The Gulf War put both service and joint reforms to the test.

When Iraqi forces invaded Kuwait in 1990 and threatened the balance of power in the Middle East, the United States responded. However, the initial response was not military action, but rather military planning. Although joint planners could draw upon concepts from Central Command's (CENTCOM) Operation Plan (OPLAN) 1002-90, which provided a deployment option against Iraq, the Air Force felt the plan did not use air appropriately and the Army thought it lacked the required force strength.[131] Therefore, the joint force's first challenge was to develop a new plan to counter Iraqi aggression.

The first obstacle encountered in the planning process was the lack of understanding between the top military leaders. As commander of U.S. Central Command (CENTCOM),

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[130] Robert A. Doughty, "Reforming the Joint Doctrine Process," *Parameters* (Autumn 1992): 46.

[131] Diane T. Putney, *Airpower Advantage: Planning the Gulf War Air Campaign 1989-1991* (Washington D.C.: Air Force History and Museums Program, 2004), 32, 45, 63.

General Norman Schwarzkopf became the Joint Force Commander (JFC) for the war effort. As the senior Army General, Schwarzkopf chose to lead the ground forces as the Land Component Commander (LCC) as well. Air Force General John Horner became the Air Component Commander (ACC) and thus the leader of the air campaign.[132] General Horner was immediately concerned that Schwarzkopf's decision to hold the dual-hatted post of JFC and LCC would make frank and necessary discussions between the air and land components difficult.[133] He feared that Schwarzkopf's Army background would confine the General to the Army mindset, negating the premise set forth by the new joint doctrine. Horner also feared that with Schwarzkopf maintaining his role as the LCC, he would end up working for the Army, rather than cooperating with the sister service in a joint effort.[134] However founded his concerns, it was another unexpected act by General Schwarzkopf that angered Horner the most. Rather than tasking General Horner with developing an air plan, Schwarzkopf had called the Pentagon and directly assigned the duty to the Air Staff in Washington.[135] Schwarzkopf felt that General Horner, who was forward deployed to Saudi Arabia, would be too busy as the acting commander in theater to work planning as well, and he assured him he would assume the duty once the "preliminary work was complete."[136] Thus, planning for *Operation Desert Storm* began at the Pentagon.

The Air Staff began planning an offensive air campaign right away, led by Colonel Warden and the Air Staff's Checkmate branch in the basement of the Pentagon. The Air Staff, contrary to Horner's displeasure with the move, was surprised and delighted when General Schwarzkopf called and requested a plan for a strategic air campaign.[137] The plan that Warden

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[132] Putney, *Airpower Advantage*, 6.

[133] Ibid.

[134] Ibid., 9.

[135] Reynolds, *Heart of the Storm*, 16.

[136] Putney, *Airpower Advantage*, 32.

[137] Reynolds, *Heart of the Storm*, 16.

and his Checkmate partners put forward, entitled *Instant Thunder*, was a purely Air Force product and was thus consistent with the service's operational perspective.The plan completely bypassed the outer two rings of Warden's conceptual model: fielded forces and population.[138] Only later would the plan include an option to strike fielded military forces if they advanced on Saudi Arabia.[139] Instead, the strategic air campaign contained eight target categories, including leadership, command and control, nuclear, biological and chemical-warfare capabilities and storage facilities, military support facilities, ballistic missile launchers and their infrastructure, electric power, oil refineries, and key bridges and railway facilities.[140] Planners chose the targets with great discretion, carefully selecting each one based on the effect it would have on obtaining the larger aim. Colonel Deptula notes, "The architects of the air campaign did not limit themselves to the 'servicing target list' approach. The design of the air campaign grew out of a mindset questioning how to impose force against enemy systems to achieve specific effects that would contribute directly to the military and political objectives of the Coalition."[141] The plan reflected the Air Force's view of targeting as operational art.

Warden, and many others whom he influenced, believed that a strategic air campaign, executed against their "system" of targets, would be effective in "six to nine days," relying heavily upon simultaneous, or as Deptula called it, "parallel," operations and precluded the need for phasing.[142] Even when pressed to add ground support phase by General Powell, Warden only went so far as to hold an operational reserve that "would strike the Iraqi army if it invaded Saudi

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[138] Putney, *Airpower Advantage*, 45.

[139] Reynolds, *Heart of the Storm*, 54-55.

[140] John Andreas Olsen, "The 1991 Bombing of Baghdad: Air Power Theory vs Iraqi Realities," in *Air Power History: Turning Points from Kitty Hawk to Kosovo*, ed. Sebastian Cox and Peter Gray (London: Frank Cass & Co., 2002), 271.

[141] Deptula, *Effects-Based Operations*, 14.

[142] Putney, *Airpower Advantage*, 67.

Arabia."[143] Furthermore, according to the Checkmate planners, there would be no need to target fielded forces; the strategic air campaign was sufficient to liberate Kuwait without a ground campaign.[144] The Air Force planners expressed their belief that the war could be won using air alone.

The plan pleased Schwarzkopf, who exclaimed after hearing the briefing for the first time, "You have restored my confidence in the United States Air Force."[145] The Joint Force Commander could see the operational art in the plan, as it hit both tactical and strategic targets to achieve the strategic objectives. Unfortunately, what appeared to be a resounding endorsement for the 'air only' approach was a miscommunication. The Army General was not looking for an air "solution" to the war, but an air "option" in case Iraqi President Saddam Hussein was to use chemical weapons or start shooting hostages.[146] Nevertheless, the Air Force plan gained traction and, with minor modifications, was sent to the theater and placed in Horner's hands.

General Horner, happy to have the plan out of the Checkmate cell handed it over to the Black Hole planning group in a third-floor conference center in Riyadh, Saudi Arabia.[147] Brigadier General Buster Glossen, closely assisted by Deptula, who had been working side-by-side with Warden at Checkmate, headed the Special Planning Group.[148] Horner tasked Glossen with starting the planning afresh; however, even after some minor modifications, the Black Hole produced a plan that contained the same principles as *Instant Thunder*.[149] Thus, the plan remained consistent with the Air Force's operational perspective.

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[143] Putney, *Airpower Advantage*, 70.

[144] Olsen, "The 1991 Bombing of Baghdad," 261.

[145] Reynolds, *Heart of the Storm*, 56.

[146] Putney, *Airpower Advantage*,59.

[147] Michael R. Gordon and General Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little, Brown and Company, 1995), 95.

[148] Ibid., 96.

[149] Ibid.

Planning for the ground campaign commenced in mid-September, developing a scheme that could be "grafted" into the air plan.[150] General Schwarzkopf, dissatisfied with his planning options at CENTCOM, brought together a group of four graduates from the School of Advanced Military Studies, led by Lieutenant Colonel Joe Purvis, to formulate the ground plan.[151] As the plan evolved, it incorporated many of the elements of operational art, drawn from the Army's new doctrine and several historical scenarios; the plan was a brilliant illustration of the Army's operational perspective. Unlike its sister service, the Army was certain that a ground attack would be necessary, for in their view, taking and holding the land was essential. As Dr. Swain writes, the "liberation of Kuwait ultimately required taking possession of territory—Kuwait itself, as the primary mission, and southeastern Iraq, to ensure negotiations."[152] In order to take the terrain, the Army would have to employ its brand of operational art, arranging tactical actions.

General Schwarzkopf gave his team the liberty to plan, but he was adamant that they must destroy the enemy's main armored force, the Republican Guard.[153] With that guidance, the staff designed a plan that arranged tactical actions to meet their goal. The Marines and coalition partners would attack toward Kuwait City from the south, fixing the enemy in place. Meanwhile, the U.S. Third Army would then secretly shift west and envelope the enemy with a "left hook."[154] The plan consisted of four major phases; each step toward the objective set the conditions for the next.[155]

Inadequate troop strength initially plagued the Allied plan, but even after receiving the second corps to fall under the Third Army, planners still sought favorable force ratios by relying

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[150] Swain, *"Lucky War,"* 74.

[151] Ibid., 75.

[152] Ibid., 71-72.

[153] Gordon and Trainor, *The Generals' War*, 148-149.

[154] Swain, *"Lucky War,"* 92-93.

[155] Stephen A. Bourque, *Jayhawk!: The VII Corps in the Persian Gulf War* (Washington D.C.: Department of the Army, 2002), 35.

on air to attrit the enemy forces. Early on, when General Powell received the *Instant Thunder* briefing, he told Warden, "I want to leave smoking tanks as kilometer posts all the way to Baghdad."[156] Dr. Swain writes, "Ground commanders from General Schwarzkopf to the lowest armored battalion commander believed that success on the ground depended on the Air Force inflicting significant destruction upon enemy ground Forces."[157] From its focus on capturing terrain, to its arranging tactical actions through phasing, to its reliance upon the Air Force, the Army's plan was an expression of their operational perspective.

The opposing views the two services brought into the planning process caused angst between senior officials. This was evident in the back-and-forth dialogue that ensued when General Powell first heard Warden's version of the Air Force's plan. The Army Chief of Staff expressed his concern over the lack of tactical air involved. In response, Warden emphasized the danger of diverting air from strategic mission for tactical reasons. Upon hearing this, the Director of Operations, Army Lieutenant General Tom Kelly, interrupted, "This isn't going to work. Air Power can't be decisive!"[158] In response, the Air Force's Vice Chief of Staff General Loh returned fire: "It can be decisive and provide another set of conditions for future action, or if you hit the right set of targets, you won't need any future action."[159] Both men saw the plan through their own operational lenses and failed to see the greater joint approach. While General Kelly saw strategic air attacks as a waste, convinced they would only serve to strengthen enemy resolve and take much-needed air from ground support, General Lou expressed the Air Force's characteristic independent mindset that airpower alone could win the war. Navy Admiral David Jeremiah spoke up and broke the tension, "What if you flow [forces and equipment] for the strategic air campaign

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[156] Putney, *Airpower Advantage*, 62.

[157] Swain, *"Lucky War,"* 71.

[158] Ibid., 73.

[159] Ibid.

and then flow for land operations?"[160] What seemed to be a compromise may have revealed a solid understanding for how the two force's views could complement one another. Powell's concurrence turned *Instant Thunder* into a two-phased campaign: strategic attack followed by an all out assault on the enemy's fielded forces.[161]

The new, joint approach to the air campaign eventually became a four-phased plan. The strategic air campaign would go as planned, followed by gaining air superiority over Kuwait. The third phase would attrit Iraqi forces, with a particular focus on the Republican Guard, and the fourth phase consisted of supporting the ground attack into Kuwait and Iraq.[162] The Air Staff estimated that airpower would reduce the enemy tank and artillery strength to fifty percent, an approximation that quickly became a precondition for the beginning of phase IV and set the stage for more controversy.[163]

Senior officials were not the only ones having difficulty rising above their own service perspective; several of the ground commanders were concerned about the Air Force's ability to attrit the enemy force to an acceptable level, especially since they were dedicating so much air to strategic attack early on.[164] On the other hand, Air Force leaders were concerned with Schwarzkopf's insistence that the air component attack the Republic Guard starting on day one. This violated the warning that Warden had given Powell; concentrating airpower on one task at a time was instrumental to the air plan.[165] Army and Air Force commanders both had difficulty buying into the joint plan.

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[160] Swain, *"Lucky War,"* 73.

[161] Ibid., 74.

[162] William F. Andrews, *Airpower Against an Army: Challenge and Response in CENTAF's Duel with the Republican Guard* (Maxwell AFB, AL: Air University Press, 1998), 22.

[163] Ibid., 24.

[164] Swain, *"Lucky War,"* 123.

[165] Ibid., 27.

Despite General Horner's early concerns that General Schwarzkopf would be more Army than Joint focused, the opposite proved true. One instance in which he expressed both his authority and his joint perspective was in a meeting, just days before the launch of the ground campaign. Army Corps Commanders were displeased with Horner's plan for distributing Close Air Support (CAS) to their units, and the opposing sides began arguing about who owned the CAS sorties. Schwarzkopf spoke up and made it clear: "You people don't understand. It's all my air, and I'll use it any way I please."[166] The General was not simply pointing out who was in charge; he was clarifying a central principle of joint operations. The Army does not participate in Air Force operations, nor does the Air Force participate to Army operations. Instead, both services contribute to Joint operations, working together toward executing the joint plan rather than conforming completely to the other's perspective. General Schwarzkopf understood that the services were to be supportive, not subjugated, to one another. Indeed, he did own the air, as well as the rest of the military force, and he used them to execute a truly joint operation.

Though he made some changes to both the ground and the air campaigns that were not popular with the service generals, who clung to their partisan concepts of operational art, General Schwarzkopf was able to rise above his branch's mental model and see both perspectives. By taking the joint perspective, Schwarzkopf could see both the necessity of a ground invasion and the merits of a strategic air campaign. Joint Publication 1, *Doctrine for the Armed Forces of the United Sates*, proclaims, "Joint force commanders (JFCs) may choose the capabilities they need from their disposal."[167] As the overall operational artist, Schwarzkopf did not limit himself to the means of one service or the other, but developed a plan that incorporated all appropriate means to achieve the strategic goal. Due to his steadfastness and determination to keep the joint perspective and his ability to manage service parochialism, the operation was one of the most successful in

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[166] Putney, *Airpower Advantage*,346-347.

[167] JP 1, *Doctrine for the Armed Forces of the United States*, i.

American history. After five weeks of bombing to start the war, Coalition forces won the ground war in just four days.[168] Despite resistance within the ranks of both services to the alterations made to their own plans, which violated their own operational perspectives, the joint plan combined the strengths of both and accomplished the strategic goal.

[168]Gordon and Trainor, *The Generals' War*, 474.

V. Conclusion

The Army and Air Force, operating primarily in different domains, wield very different means for warfare. These unique means provide capabilities that have given the two services unique operational perspectives of how the military can and should fight wars. The Army's experience, theory, and doctrine align with the concept that decisive battles are no longer possible; therefore, they hold to the view that tactical actions must be coordinated to pursue the strategic objective. Furthermore, they view phasing as an essential part of their operational art and are dependent upon their sister services for support. On the other hand, the Air Force theorized, even before it was capable of achieving it, that airpower alone could be decisive. Able to overfly the enemy forces and terrain, the air service views tactical actions as hitting targets that will get directly at the heart of the enemy. Relying primarily upon simultaneous actions, and phasing only when necessary to gain air superiority, the Air Force holds that it can reach strategic objectives independently. While the Army's operational perspective projects a 'stepping-stone' type approach to achieving operational objectives, the Air Force's overall view takes nearly the opposite course and tends toward an 'inside-out' approach. With these assumptions firmly implanted in their respective worldviews, the services look at the concept of operational art differently, causing conflict between the two teammates.

The disagreements, often in the form of heated debates, certainly create risks to operations, but they also present opportunities. While John Kotter argued that conflict arises when variety meets interdependence, as is the case between the Army and Air Force, he also pointed out that variety leads to "more original thinking, more creative solutions to problems, and more innovative products." [169] Mary Jo Hatch went further: "Too little and too much conflict result in poor performance, whereas performance is optimized by an intermediate level of

[169] Kotter, *Power and Influence*, 33.

conflict."[170] As seductive as it may sound to have the joint force planners in complete agreement on how to pursue strategic objectives, concurrence might actually stifle creativity. Instead, each branch should maintain their unique perspective and continue to bring service-specific concepts into planning. However, rather than dismissing inputs from their sister service teammates, joint planners must seek to understand the other's perspective. Understanding of the assumptions behind one's own operational perspective and those of the other services, based on the history, theory, and doctrine, is a start to tempering the inherent conflict between the two. Peter Senge writes that "suspending of one's own views" is essential to discussion and dialogue, which are required in joint planning.[171] By rising above the dogmatic allegiance to one's own service view and taking the joint perspective, planners can call upon the appropriate mean and ways from each service in a synergistic joint plan.

The Joint definition of operational art calls for "the application of creative imagination by commanders and staffs," as well as the integration of "ends, ways, and mean."[172] Collaboration between the services increases the creative ability of the commander and staff, bringing forth ideas for utilizing the full range and breadth of forces available. This enables planners to formulate cogent ways that take elements of both the Army and Air Force's views of operational art and tailor them to the situation at hand. Michael Matheny pointed out in his book assessing American operational art: "The very essence of modern operational art is finding effective combinations of airpower, seapower, and landpower."[173] Schwarzkopf demonstrated the potential opportunities by integrating the Army and Air Force views into a synchronized plan during Desert Storm. Though the Air Force had envisioned accomplishing the task unilaterally, and the

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[170] Marry Jo Hatch with Ann L. Cunliffe, Organizational Theory: Modern Symbolic, and Postmodern Perspectives (Oxford: Oxford University Press, 2006), 279.

[171] Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization* (New York: Currency Doubleday, 1990), 261.

[172] JP 3-0, *Joint Operations*, IV-2-IV-3.

[173] Matheny, *Carrying the War to the Enemy*, xix.

Army felt the Air Force was not fully supporting them, as the JFC, General Schwarzkopf saw the potential effects of merging their perspectives and capitalizing on the strengths of each to contribute to the team effort.

Adopting different ways and means of reaching strategic goals, the Army and Air Force have developed different operational perspectives. This monograph has highlighted those differences by focusing on five fundamental aspects of their individual views: space, objective, tactical actions, time, and dependency. More importantly, this study has explored the roots of these views through the frames of history, theory, and doctrine, to discover why the services believe and thus plan and act in different ways. The shared understanding that results from the ability to relate to the other's point of view increases the cooperation that is required in joint planning. Reimer and Folgleman write, "Trust is based on insight and familiarity."[174] The potential pitfalls in joint planning stem from parochial mindsets that put their service beliefs above that of the joint team and refuse to see and understand the sister service's view. This leads to a limited perception of warfare and failure to seize all available opportunities. Instead, as the two former Chiefs of Staff write, "A soldier's expectation of airpower must be based on the realization that airmen have theater-wide perspectives and responsibilities. An airman must appreciate the vital role of airpower in land combat and understand that air flown in support of the LCCs must complement the plans of the LCCs."[175] To arrive at this kind of understanding, joint planners must avoid being service ambassadors, set aside needless parochial arguments, and seek to understand one another's point of view. Through shared understanding, joint planners are better equipped to rise above service loyalties and utilize the strengths and views of both forces in a joint team concept.

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[174] Reimer and Fogleman, "Joint Warfare," 15.

[175] Reimer and Fogleman, "Joint Warfare," 15.

BIBLIOGRAPHY

Air Force Doctrine Document (AFDD) 1. *Air Force Basic Doctrine, Organization, and Command.* Washington D.C.: HQ AFDC/DD, 14 October 2011.

Air Force Doctrine Document (AFDD) 2. *Operations and Organization*. Washington D.C.: HQ AFDC/DD, 3 April 2007.

Air Force Doctrine Document (AFDD) 3-1. *Air Warfare*. Washington, D.C.: HQ AF, 28 July 2011.

American Battle Monuments Commission. *American Armies and Battlefields in Europe*. 1992 ed. Washington D.C.: U.S. Government Printing Office, 1938; reprint, Washington D.C.: U.S. Army Center of Military History.

Andrews, William F. *Airpower Against an Army: Challenge and Response in CENTAF's Duel with the Republican Guard.* Maxwell AFB, AL: Air University Press, 1998.

Army Doctrine Publication (ADP) 3-0. *Unified Land Operations*. Washington D.C.: HQ DA, 10 October 2011.

Bourque, Stephen A. *Jayhawk!: The VII Corps in the Persian Gulf War.* Washington D.C.: Department of the Army, 2002.

Builder, Carl H. *The Masks of War: American Military Styles in Strategy and Analysis.* Baltimore: RAND Corp, 1989.

Caesar, Julius. *de Bello Civili.* Quoted in Dictionary.com, "Quotes." http://quotes.dictionary.com/author/julius+Caesar (accessed September 29, 1012).

Chandler, David G. *The Campaigns of Napoleon.* New York: MacMillan Publishing Co., Inc. 1966.

Clausewitz, Carl von. *On War*. Translated and edited by Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1976.

Clodfelter, Mark. *The Limits of Air Power: The American Bombing of North Vietnam*. New York: The Free Press, 1989.

Deptula, David A. *Effects-Based Operations: Change in the Nature of Warfare.* Arlington, VA: Aerospace Education Foundation, 2001.

Dolman, Everett Carl. *Pure Strategy: Power and Principle in the Space and Information Age.* New York: Routledge, 2005.

Doughty, Robert A. "The Evolution of U.S. Army Tactical Doctrine, 1946-76." *Leavenworth Papers* No. 1. Fort Leavenworth, KS: Combat Studies Institute, August 1979.

Doughty, Robert A. "Reforming the Joint Doctrine Process." *Parameters* (Autumn 1992): 46.

Douhet, Giulio. *The Command of the Air*, translated by Dino Ferrari, in *Roots of Strategy: Book 4*, edited by David Jablonsky. Mechanicsburg, PA: Stackpole Books, 1999.

Echevarria II, Antulio J. "American Operational Art, 1917-2008." In *The Evolution of Operational Art*, edited by John Andreas Olsen and Martin Van Creveld, 137-165. Oxford: Oxford University Press, 2011.

Epstein, Robert M. *Napoleon's Last Victory and the Emergence of Modern Warfare*. Lawrence, KS: University Press of Kansas, 1994.

Field Manual (FM) 1. *The Army.* Washington D.C.: HQ DA, June 2005.

Field Manual (FM) 3-0. *Operations*. Washington D.C.: HQ DA, 22 February 2011.

Field Manual (FM) 100-5. *Operations.* Washington D.C.: HQ DA, May 1986.

Fischer, David Hackett. *Washington's Crossing*. New York: Oxford University Press, 2004.

Gharajedaghi, Jamshid. *Systems Thinking: Managing Chaos and Complexity: A Platform for Designing Business Architecture,* Second Edition. San Diego, CA: Elsevier, Inc., 2006.

Gordon, Michael R. and General Bernard E. Trainor. *The Generals' War: The Inside Story of the Conflict in the Gulf.* Boston: Little, Brown and Company, 1995.

Greer, Thomas H. *The Development of Air Doctrine in the Army Air Arm 1917-1941*. Maxwell AFB, AL: USAF Historical Studies, 1955.

Harrison, Richard W. *Architect of Soviet Victory in World War II: The Life and Theories of G.S. Isserson*. Jefferson, NC: McFarland and Company, Inc., Publishers, 2010.

Hatch, Marry Jo with Ann L. Cunliffe. *Organizational Theory: Modern Symbolic, and Postmodern Perspectives.* Oxford: Oxford University Press, 2006.

Holder, L.D. "A New Day for Operational Art," *Operational Level of War-Its Art.* Carlisle Barracks, PA: US Army War College, 1985.

Isserson, Georgi Samoilovich. *The Evolution of Operational Art*. Translated by Bruce W. Menning. Moscow: The State Military Publishing House of the USSR People's Defense Commissariat, 1937.

Jason, Gary. *Critical Thinking: Developing an Effective Worldview*. Belmont, CA: Wadsworth Group, 2001.

Joint Publication (JP) 1, *Doctrine for the Armed Forces of the United States.* Washington D.C.: DoD, 20 March 2009.

Joint Publication (JP) 3-0, *Joint Operations.* Washington D.C.: DoD Publishing, 22 March 2010.

Kotter, John P. *Power and Influence: Beyond Formal Authority.* New York: The Free Press, 1985.

Lederman, Gordon Nathaniel. *Reorganizing the Joint Chiefs of Staff: The Goldwater-Nichols Act of 1986*. Westport, Connecticut: Greenwood Press, 1999.

Marshall, George C. *Memoirs of My Service in the World War: 1917-1918.* Boston, MA: Houghton Mifflin Company, 1976.

Mason, R. A., ed. *War in the Third Dimension: Essays in Contemporary Air Power*. London: Brassey's Defence Publishers, 1986.

Matheny, Michael R. *Carrying the War to the Enemy: American Operational Art to 1945*. Norman, OK: University of Oklahoma Press, 2011.

Mitchell, William. *Winged Defense*, in *Roots of Strategy: Book 4*, edited by David Jablonsky, 408-515. Mechanicsburg, PA: Stackpole Books, 1999.

Momyer, William W. *Air Power in Three Wars: WWII, Korea, Vietnam.* Maxwell AFB, AL: Air University Press, 2003.

Nalty, Bernard C. ed. *Winged Shield, Winged Sword: A History of the United States Air Force, Volume I 1907-1950.* Washington, D.C.: Air Force History and Museums Program, 1997.

Nalty, Bernard C. ed. *Winged Shield, Winged Sword: A History of the United States Air Force, Volume II 1950-1997.* Washington, D.C.: Air Force History and Museums Program, 1997.

Naveh, Shimon. *In Pursuit of Military Excellence: The Evolution of Operational Theory.* London: Frank Cass, 1997.

Odierno, Raymond T. Forward to Army Doctrine Publication (ADP) 3-0. *Unified Land Operations.* Washington D.C.: HQ DA, 10 October 2011.

Olsen, John Andreas. "The 1991 Bombing of Baghdad: Air Power Theory vs Iraqi Realities." In *Air Power History: Turning Points from Kitty Hawk to Kosovo*, edited by Sebastian Cox and Peter Gray, 258-286. London: Frank Cass & Co., 2002.

Paret, Peter, ed. *Makers of Modern Strategy: from Machiavelli to the Nuclear Age.* Princeton, NJ: Princeton University Press, 1986.

Putney, Diane T. *Airpower Advantage: Planning the Gulf War Air Campaign 1989-1991*. Washington D.C.: Air Force History and Museums Program, 2004.

Reimer, Dennis J. and Ronald R. Fogleman. "Joint Warfare and the Army-Air Force Team." *Joint Forces Quarterly*, Spring 1996, 9-15.

Reynolds, Richard T. *Heart of the Storm: The Genesis of the Air Campaign Against Iraq.* Maxwell AFB, AL: Air University Press, 1995.

Schneider, James J. *Vulcan's Anvil: The American Civil War and the Foundations of Operational Art.* Theoretical Paper No.4. Fort Leavenworth, KS: U.S. Army Command and General Staff College, 2004.

Senge, Peter M. *The Fifth Discipline: The Art and Practice of the Learning Organization.* New York: Currency Doubleday, 1990.

Sherman, William T. *Memoirs, Volume 2.* New York: Da Capo, 1984.

Smith, Perry McCoy. *The Air Force Plans for Peace, 1943-1945.* Baltimore, John Hopkins University Press, 1970.

Swain, Richard M. "Filling the Void: The Operational Art and the U.S. Army." In *Operational Art: Developments in the Theory of War*, edited by B.J.C McKercher and Michael Hennessy, 147-171. Westport, CT: Praeger, 1996.

Swain, Richard M. *"Lucky War" Third Army in Desert Storm.* Fort Leavenworth, KS: U.S. Army Command and General Staff College Press, 1994.

Tate, James P. *The Army and Its Air Corps: Army Policy toward Aviation, 1919-1941.* Maxwell AFB, AL: Air University Press, 1999.

Wagner, Arthur L. *Strategy: A Lecture Delivered by Colonel Arthur L. Wagner, Assistant Adjutant-General, U.S.A., to the Officers of the Regular Army and National Guard at the Maneuvers at West Point, Ky., and at Fort Riley, Kansas, 1903*. Kansas City, MO: Hudson-Kimberly Publishing, 1903.

Warden III, John A. *The Air Campaign: Planning for Combat.* San Jose, CA: toExcel Press, 2000.

Watts, Barry D. *The Foundations of US Air Doctrine: The Problem of Friction in War.* Maxwell AFB, AL: Air University Press, 1984.

Weigley, Russell F. “Normandy to Falaise: A Critique of Allied Operational Planning in 1944.” in *Historical Perspectives of the Operational Art*, 393-413. Washington D.C.: Center of Military History, 2007.

Worden, Mike. *Rise of the Fighter Generals: The problem of Air Force Leadership, 1945-1982.* Maxwell AFB, AL: Air University Press, 1998.